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Computer Ethics and its Evolution Over Time

Introduction

What is Computer Ethics?

Computer Ethics is a concept in ethics that addresses the issues and constraints that arise from the use of computers and how they can be mitigated or prevented. Computer Ethics is a set of commonly agreed principles that govern the use of computers.

History of Computer Ethics

World War II saw the rise in popularity of computer ethics, as MIT scientist Norbert Wiener foresaw the moral and societal ramifications of the technology he was working on. In 1950, he penned The Human Use of Human Beings, which included the initial set of ethical dilemmas, queries, and subjects. However, Walter Maner of Bowling Green State University came up with the term "Computer Ethics" in 1976.

The first code of ethics was drafted by the Association for Computing Machinery (ACM) in 1973.

Deborah Johnson, a professor of applied ethics at the University of Virginia, wrote Computer Ethics, which has since become the industry standard. determine the direction of computer ethics research for the ensuing ten years.

Key Organizations

- Association for Computing Machinery
- Australian Computer Society
- British Computer Society
- German Informatics Society
- IEEE
- League of professional system administrators
- Computer Ethics Institute
- Major Ethical Issues
- Computer Crime: also referred to as cybercrime is when a skilled computer user, referred to as a “hacker”, illegally gains access to a company’s or individual’s private information. The hacker may destroy or corrupt the data and even the computers they are on.
- Privacy: The degree of privacy protection that a person has when using the internet is known as computer privacy. This includes the protection of an individual's communications, preferences, and financial and personal information.
- Intellectual Property: Protecting intellectual property that is the category of property that entails creations of human intellect that are not necessarily tangible.

- Freedom – allowing users to act as they wish and not be under the control of another. In this case especially the government controlling the internet.

How ethical issues have evolved over time.

With new applications of computers and the advancements made in technology to give computers much more capability than ever before. Computers have become more reliable, have more storage, have become more accurate, and adaptable making them widely used from banks to hospitals to schools. These advancements have brought about different discussion in the field of computer ethics. Some more recent ethical issues include.

• Privacy of user data with Internet of Things (IoT) – physical objects with sensors, processing power, software and other technology that connect with each other and transfer data between themselves and even other devices over the Internet. This technology is slowly being placed every device from fridges to televisions. Is the data being transferred a violation of privacy? Is it kept secure and safe?

• Virtual crypto-currencies – digital currency designed to be used as a means of exchange through the computer network. Monitoring and managing crypto currency to prevent money-laundering and or terrorist financing.

• Autonomous technology making human choices – an example is self-driving cars. Can we rely on technology to make the decisions of humans?

• Security risks of cloud-based technology – user interactions sent to be analyzed at central computer hubs. Is this secure? Is this an invasion of privacy?

• Artificial intelligent devices and software – amazon Alexa, google home collecting personal data from users while at home and uploading them to the cloud. Siri & Cortana smartphone assistants collecting personal data of users and analyzing them. Is this secure? Is this an invasion of privacy?

Ongoing Debates and Controversies

- Computer ethics will one day replace ethics altogether or computer ethics demand we apply moral norms in different territory meaning they consist of the same moral dilemmas.
- Autonomous Technology the decision making of the computer system Versus the choices of humans.

Current State of Computer Ethics

- Emerging Technologies: Ethical discussions have been particularly active around emerging technologies like artificial intelligence, machine learning, blockchain, and biotechnology. Issues such as bias in algorithms, privacy concerns, and potential job displacement have been prominent topics.

- Data Privacy and Security: The protection of personal data and cybersecurity have become central issues in computer ethics. Debates around data breaches, surveillance, and the use of personal information by corporations and governments are prevalent.

- Algorithmic Bias and Fairness: There is growing awareness of biases embedded in algorithms, which can lead to discriminatory outcomes, particularly in areas like hiring, criminal justice, and lending. Efforts to develop fair and transparent algorithms are gaining traction.

- Social Media and Online Behavior: Ethics related to social media platforms include issues like misinformation, cyberbullying, online harassment, and the impact of social media on mental health.

- AI in Healthcare: The use of AI in healthcare raises questions about patient privacy, consent, and the potential for biased or inaccurate medical advice.

- Autonomous Systems and Robotics: Ethical considerations regarding autonomous vehicles, drones, and robots revolve around safety, accountability, and the potential impacts on employment.

Future Prospects

- AI Ethics and Explainability: As AI continues to advance, there will be an increased focus on understanding and explaining the decisions made by AI systems. This includes efforts to mitigate bias, ensure transparency, and establish accountability.

- Regulation and Governance: Governments and international organizations are likely to play a more active role in setting ethical standards and regulations for technology companies. This may include guidelines for data protection, algorithmic accountability, and cybersecurity.

- Ethics of Augmentation: As technologies like brain-computer interfaces and genetic engineering advance, there will be complex ethical discussions around human augmentation, cognitive enhancement, and genetic modification.

- Digital Divide and Access: Ensuring equitable access to technology and bridging the digital divide will be a critical ethical concern, especially as technology becomes increasingly integral to education, healthcare, and economic participation.

- Environmental Impact: The environmental footprint of technology, including data centers and electronics manufacturing, will be a growing ethical consideration. This includes discussions around sustainability, energy consumption, and electronic waste.

- Global Perspectives on Ethics: Different cultures and societies have varying perspectives on ethics, and navigating these differences will be crucial, especially in a globally interconnected world.

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